

SCREENING FOR ATRIAL FIBRILLATION IN THE GENERAL POPULATION: THE OPTIMAL AGE LIMIT. RESULTS FROM THE BELGIAN HEART RHYTHM WEEK 2010-2012.

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Diagnosing AF in patients aged 65 years (y) or over, before the first embolic complication, is recognized as a class I recommendation by the recent ESC guidelines. However, data are lacking in the general population to select the critical lower age limit to organize large screening programs

Since 2010, Belgian citizens preferably over 40 y old were invited by the media during an annual “Heart Rhythm Week” to participate in a free screening in 89 hospitals. Participants were invited to fill in a validated stroke risk stratification questionnaire registering CHA2DS2-VASc- score, and a one lead ECG with a hand held monitor was performed.

Over 3 y, 55.359 voluntary subjects were screened representing 0.5% of the national population, 59% were women and mean age was 57 ± 14 y. AF was detected in 840 patients (1.52%), 49% were women and mean age was 67 ± 13 y ($p < 0.001$). A subset of 14.430 subjects was excluded from analysis, either being < 40 y or having incomplete data. In the 26.558 subjects aged 40-64 y, AF was present in 249 (0.94%), while in the 14.371 subjects aged > 65 y, AF was present in 437 (3.03%). Prevalence of AF varied from 0.5% in subjects < 40 y to 0.7% in 40-44y, 0.7% in 45-49y, 0.8% in 50-54y, 1.1% in 55-59y, 1.1% in 60-64y, 1.7% in 65-69y, 2.8% in 70-74y, 4.0% in 75-79y, 5.6% in 80-84y, and 6.1% in > 85 y. In subjects aged 40-64y, CHA2DS2-VASc score was 0.5 ± 1 in subjects in sinus rhythm and 0.7 ± 1.1 in AF patients. In subjects aged > 65 y, CHA2DS2-VASc score was 2.8 ± 1.5 in subjects in sinus rhythm and 3.2 ± 1.7 in AF patients. AF was detected in 1 patient for every 24 test in subjects > 70 y, 56 test in 69-65y, 86 tests in 64-60y, 90 tests in 59-55y, 122 tests in 54-50y, 140 tests in 49-45y, 139 tests in 44-40y.

We conclude that limiting a large screening population only to subjects > 65 y would have missed AF diagnosis in a significant number of patients. However the costs associated with these large scale screenings have to be balanced against the benefit of early detection of AF in younger patients with lower CHA2DS2-VASc scores.